

IN THE CLAIMS:

Claims 1 - 12 (canceled).

Claim 13 (canceled).

Claim 14 (previously presented): The drying and storing apparatus for powdered or granular material as set forth in claim 36, wherein said thermal conductive heating means further comprises an inner tube unit having a pillar body hung at the center of said outer tube unit, a second heater embedded in said pillar body, and a plurality of fins for conducting the heat of said second heater.

Claim 15 (previously presented): The drying and storing apparatus for powdered or granular material as set forth in claim 14, wherein said tube wall and said fins of said outer tube unit, and said pillar body and said fins of said inner tube unit are all made of a highly heat conductive metal.

Claim 16 (currently amended): The drying and storing apparatus for powdered or granular material as set forth in claim 14 or [[36]] 15, wherein said pillar body has at its lower end a rectifier whose diameter is enlarged downwardly.

Claim 17 (previously presented): The drying and storing apparatus for powdered or granular material as set forth in any one of claims 14, 15 or 36, wherein  
said hopper chamber has an opening at its upper end and an open-close cover for air tightly closing the opening, and wherein  
a powdered or granular material to be heated and dried is capable of being fed in said material storage processing tank by opening said open-close cover.

Claim 18 (previously presented): The drying and storing apparatus for powdered or granular material as set forth in any one of claims 14, 15 or 36, wherein:

said hopper chamber has an opening at a part of the upper end and a charge hopper is further provided on the opening via a discharge valve; and wherein

a powdered or granular material to be heated and dried is capable of being fed in said material storage processing tank by opening said discharge valve.

Claim 19 (canceled).

Claim 20 (canceled).

Claim 21 (canceled).

Claim 22 (canceled).

Claim 23 (canceled).

Claim 24 (canceled).

Claim 25 (canceled).

Claim 26 (canceled).

Claim 27 (canceled).

Claim 28 (canceled).

Claim 29 (previously presented): The feeding system of powdered or granular material as set forth in claim 42, wherein said powdered or granular material is resin pellet and said processing apparatus of powdered or granular material is a resin molding machine.

Claim 30 (canceled).

Claim 31 (previously presented): The feeding system of powdered or granular material as set forth in claim 43, wherein said powdered or granular material is resin pellet and said processing apparatus of powdered or granular material is a resin molding machine.

Claim 32 (previously presented): The feeding system of powdered or granular material as set forth in claim 44, wherein said powdered or granular material is resin pellet and said processing apparatus of powdered or granular material is a resin molding machine.

Claim 33 (previously presented): The feeding system of powdered or granular material as set forth in claim 45, wherein said powdered or granular material is resin pellet and said processing apparatus of powdered or granular material is a resin molding machine.

Claim 34 (previously presented): The feeding system of powdered or granular material as set forth in claim 46, wherein said powdered or granular material is resin pellet and said processing apparatus of powdered or granular material is a resin molding machine.

Claim 35 (canceled).

Claim 36 (previously presented): A drying and storing apparatus for powdered or granular material, comprising:

a material storage processing tank including a heating and drying chamber having at its lower end a discharge port and therein a thermal conductive heating means, and a hopper chamber connected to the upper end of said heating and drying chamber for storing therein a powdered or granular material to be heated and dried, said thermal conductive heating means comprising an outer tube unit having a first heater provided in a tube wall and a plurality of fins for conducting the heat of said first heater projected from the inside of said tube wall into the center and spaced in its circumferential direction, and

a decompression means for depressurizing the inside of said material storage processing tank,

said material storage processing tank being formed by integrally connecting said hopper chamber and said heating and drying chamber and having an airtight means, and said hopper chamber is designed to be larger in capacity than said heating and drying chamber, wherein,

the powdered or granular material stored in said material storage processing tank is heated and dried by said thermal conductive heating means in said heating and drying chamber while said material storage processing tank is depressurized, and, wherein

said powdered or granular material stored in said hopper chamber is fed into said heating and drying chamber by its own weight for heat and dry processing, each time the powdered or granular material as finished heat and dry processing in said heating and drying chamber is discharged through said discharge port.

Claim 37 (previously presented): The drying and storing apparatus for powdered or granular material as set forth in any one of claims 14, 15 or 36, wherein

a feeder unit is provided at said discharge port, said feeder unit being connected to a transportation line and a circulation line, each of said lines having an electromagnetic valve and being connected to a compression air supply source, respectively, wherein

said feeder unit is further connected to a pneumatic transportation pipe for supplying said powdered or granular material discharged through said discharge port to a processing apparatus of powdered or granular material, corresponding to said transportation line, whereas said feeder unit is further connected to a circulation pipe for supplying said powdered or granular material discharged through said discharge port to the upper part in said hopper chamber, corresponding to said circulation line, and wherein

said powdered or granular material discharged through said discharge port is capable of being selectively supplied in said pneumatic transportation pipe or said circulation pipe by selectively controlling the open and close operation of said electromagnetic valve provided at said transportation line and said circulation line, respectively.

Claim 38 (previously presented): The drying and storing apparatus for powdered or granular material as set forth in claim 14, 15 or 36, wherein

a carrier gas introduction means by which a carrier gas is introduced into said material storage processing tank and a feeder unit provided at said discharge port are further provided at said material storage processing tank, and

said feeder unit is connected to a transportation line and a circulation line, each of said lines having an electromagnetic valve and being connected to a compression air supply source, wherein

said feeder unit is further connected to a pneumatic transportation pipe for supplying said powdered or granular material discharged through said discharge port to a processing apparatus of powdered or granular material, corresponding to said transportation line, whereas said feeder unit is further connected to a circulation pipe for supplying said powdered or granular material discharged through said discharge port to the upper part in said hopper chamber, corresponding to said circulation line, and wherein

said powdered or granular material discharged through said discharge port is capable of being selectively supplied in said pneumatic transportation pipe or said circulation pipe by selectively controlling the open and close operation of said electromagnetic valve provided at said transportation line and said circulation line, respectively.

Claim 39 (previously presented): The drying and storing apparatus for powdered or granular material as set forth in claim 16, wherein

a carrier gas introduction means by which a carrier gas is introduced into said material storage processing tank and a feeder unit provided at said discharge port are further provided at said material storage processing tank, and

said feeder unit is connected to a transportation line and a circulation line, each of said lines having an electromagnetic valve and being connected to a compression air supply source, wherein

said feeder unit is further connected to a pneumatic transportation pipe for supplying said powdered or granular material discharged through said discharge port to a processing apparatus of powdered or granular material, corresponding to said transportation line, whereas said feeder unit is further connected to a circulation pipe for supplying said

powdered or granular material discharged through said discharge port to the upper part in said hopper chamber, corresponding to said circulation line, and wherein

said powdered or granular material discharged through said discharge port is capable of being selectively supplied in said pneumatic transportation pipe or said circulation pipe by selectively controlling the open and close operation of said electromagnetic valve provided at said transportation line and said circulation line, respectively.

Claim 40 (previously presented): The drying and storing apparatus for powdered or granular material as set forth in claim 17, wherein

a carrier gas introduction means by which a carrier gas is introduced into said material storage processing tank and a feeder unit provided at said discharge port are further provided at said material storage processing tank, and

said feeder unit is connected to a transportation line and a circulation line, each of said lines having an electromagnetic valve and being connected to a compression air supply source, wherein

said feeder unit is further connected to a pneumatic transportation pipe for supplying said powdered or granular material discharged through said discharge port to a processing apparatus of powdered or granular material, corresponding to said transportation line, whereas said feeder unit is further connected to a circulation pipe for supplying said powdered or granular material discharged through said discharge port to the upper part in said hopper chamber, corresponding to said circulation line, and wherein

said powdered or granular material discharged through said discharge port is capable of being selectively supplied in said pneumatic transportation pipe or said circulation pipe by selectively controlling the open and close operation of said electromagnetic valve provided at said transportation line and said circulation line, respectively.

Claim 41 (previously presented): The drying and storing apparatus for powdered or granular material as set forth in claim 18, wherein

a carrier gas introduction means by which a carrier gas is introduced into said material storage processing tank and a feeder unit provided at said discharge port are further provided at said material storage processing tank, and

said feeder unit is connected to a transportation line and a circulation line, each of said lines having an electromagnetic valve and being connected to a compression air supply source, wherein

said feeder unit is further connected to a pneumatic transportation pipe for supplying said powdered or granular material discharged through said discharge port to a processing apparatus of powdered or granular material, corresponding to said transportation line, whereas said feeder unit is further connected to a circulation pipe for supplying said powdered or granular material discharged through said discharge port to the upper part in said hopper chamber, corresponding to said circulation line, and wherein

said powdered or granular material discharged through said discharge port is capable of being selectively supplied in said pneumatic transportation pipe or said circulation pipe by selectively controlling the open and close operation of said electromagnetic valve provided at said transportation line and said circulation line, respectively.

Claim 42 (previously presented): A feeding system of powdered or granular material comprising said drying and storing apparatus for powdered or granular material as set forth in claim 37, wherein

a compressed air supply line diverged into said transportation line and said circulation line at one end and connected to said compression air supply source at the other end and a collector connected to the distal end of said pneumatic transportation pipe, wherein

the powdered or granular material dried in said drying and storing apparatus is transported in said pneumatic transportation pipe by a compressed air introduced from said transportation line while being discharged through said discharge port when said electromagnetic valve provided for said transportation line is opened, and then is once collected in said collector, and thereafter is fed into said processing apparatus, and wherein

on the other hand when said electromagnetic valve provided for said circulation line is opened, said powdered or granular material discharged through said discharge port is transported in said circulation pipe by a compressed air introduced from said circulation line and is introduced into the upper part in said hopper chamber.

Claim 43 (previously presented): A feeding system of powdered or granular material comprising said drying and storing apparatus for powdered or granular material as set forth in claim 38, wherein

a compressed air supply line diverged into said transportation line and said circulation line at one end and connected to said compression air supply source at the other end and a collector connected to the distal end of said pneumatic transportation pipe, wherein

the powdered or granular material dried in said drying and storing apparatus is transported in said pneumatic transportation pipe by a compressed air introduced from said transportation line while being discharged through said discharge port when said electromagnetic valve provided for said transportation line is opened, and then is once collected in said collector, and thereafter is fed into said processing apparatus, wherein

on the other hand when said electromagnetic valve provided for said circulation line is opened, said powdered or granular material discharged through said discharge port is transported in said circulation pipe by a compressed air introduced from said circulation line and is introduced into the upper part in said hopper chamber, and wherein

said carrier gas introduction means has a purge line which is diverged from said compressed air supply line and is connected around said discharge port and an electromagnetic valve provided for said purge line and is designed such that said compressed air as a carrier gas is introduced into said material storage processing tank from said purge line when said electromagnetic valve is opened.

Claim 44 (previously presented): A feeding system of powdered or granular material comprising said drying and storing apparatus for powdered or granular material as set forth in claim 39, wherein

a compressed air supply line diverged into said transportation line and said circulation line at one end and connected to said compression air supply source at the other end and a collector connected to the distal end of said pneumatic transportation pipe, wherein

the powdered or granular material dried in said drying and storing apparatus is transported in said pneumatic transportation pipe by a compressed air introduced from said transportation line while being discharged through said discharge port when said



electromagnetic valve provided for said transportation line is opened, and then is once collected in said collector, and thereafter is fed into said processing apparatus, wherein  
on the other hand when said electromagnetic valve provided for said circulation line is opened, said powdered or granular material discharged through said discharge port is transported in said circulation pipe by a compressed air introduced from said circulation line and is introduced into the upper part in said hopper chamber, and wherein  
said carrier gas introduction means has a purge line which is diverged from said compressed air supply line and is connected around said discharge port and an electromagnetic valve provided for said purge line and is designed such that said compressed air as a carrier gas is introduced into said material storage processing tank from said purge line when said electromagnetic valve is opened.

Claim 45 (previously presented): A feeding system of powdered or granular material comprising said drying and storing apparatus for powdered or granular material as set forth in claim 40, wherein

a compressed air supply line diverged into said transportation line and said circulation line at one end and connected to said compression air supply source at the other end and a collector connected to the distal end of said pneumatic transportation pipe, wherein  
the powdered or granular material dried in said drying and storing apparatus is transported in said pneumatic transportation pipe by a compressed air introduced from said transportation line while being discharged through said discharge port when said electromagnetic valve provided for said transportation line is opened, and then is once collected in said collector, and thereafter is fed into said processing apparatus, wherein  
on the other hand when said electromagnetic valve provided for said circulation line is opened, said powdered or granular material discharged through said discharge port is transported in said circulation pipe by a compressed air introduced from said circulation line and is introduced into the upper part in said hopper chamber, and wherein  
said carrier gas introduction means has a purge line which is diverged from said compressed air supply line and is connected around said discharge port and an electromagnetic valve provided for said purge line and is designed such that said compressed

air as a carrier gas is introduced into said material storage processing tank from said purge line when said electromagnetic valve is opened.

Claim 46 (currently amended): A feeding system of powdered or granular material comprising said drying and storing apparatus for powdered or granular material as set forth in claim [[40]] 41, wherein

a compressed air supply line diverged into said transportation line and said circulation line at one end and connected to said compression air supply source at the other end and a collector connected to the distal end of said pneumatic transportation pipe, wherein the powdered or granular material dried in said drying and storing apparatus is transported in said pneumatic transportation pipe by a compressed air introduced from said transportation line while being discharged through said discharge port when said electromagnetic valve provided for said transportation line is opened, and then is once collected in said collector, and thereafter is fed into said processing apparatus, wherein

on the other hand when said electromagnetic valve provided for said circulation line is opened, said powdered or granular material discharged through said discharge port is transported in said circulation pipe by a compressed air introduced from said circulation line and is introduced into the upper part in said hopper chamber, and wherein

said carrier gas introduction means has a purge line which is diverged from said compressed air supply line and is connected around said discharge port and an electromagnetic valve provided for said purge line and is designed such that said compressed air as a carrier gas is introduced into said material storage processing tank from said purge line when said electromagnetic valve is opened.

Claim 47 (canceled).